Claims

1. A process for the continuous preparation of thermoplastic polyurethane elastomers in which

one or more polyisocyanates (A) and

a mixture (B), with Zerewitinoff-active hydrogen atoms, comprising

B1) 1 to 85 equivalent-%, with respect to the isocyanate groups in (A), of one or more compounds with on average at least 1.8 Zerewitinoff-active hydrogen atoms and an average molecular weight $\overline{M}_n$ of 450 to 10000,

B2) 15 to 99 equivalent-% (with respect to the isocyanate groups in (A)) of one or more chain lengthening agents with an average at least 1.8 Zerewitinoff-active hydrogen atoms and a molecular weight of 60 to 400, and

0-20 wt.%, with respect to the total amount of TPU, of further auxiliary agents and additives (C)

are homogeneously premixed in a reactor within a period of at most 5 seconds, wherein the difference between the temperatures of components (A) and (B), before entering the reactor, is $\leq$20°C.

2. A process according to Claim 1, in which the temperature of components (A) and (B) before entrance to the reactor is between 60°C and 220°C.

3. A process according to Claim 1, in which the reactor is a static mixer.

4. A process according to Claim 3, characterised in that the static mixer has a length to diameter ratio in the range from 8:1 to 16:1.

5. A process according to Claim 1, in which the reactor is a twin shaft extruder.

6. A process according to Claim 1, in which the mixture obtained is reacted in an extruder or a tubular reactor to give thermoplastic polyurethane elastomers.

7. Thermoplastic polyurethane elastomers prepared according to the process in accordance with Claim 1.

8. Use of the thermoplastic polyurethane elastomers prepared in accordance with Claim 1 for preparing films, laminates, calandered products, hot melt adhesives and powder-slush coextruded products.